DEP INFORMATION SHEET

EROSION CONTROL MIX FOR SEDIMENT BARRIERS

date: April 2003 **contact: Marianne Hubert (207) 287-4140**

A sediment barrier is a berm installed across or at the toe of a slope and down gradient of disturbed earth. Its purpose is to intercept and retain small amounts of sediment from disturbed or unprotected areas of limited extent. (For other sediment barrier use, see MDEP BMP handbook section 14.0.)

The sediment barrier is used where:

- Sedimentation can pollute or degrade a wetland or any other water resource.
- Sedimentation will reduce the capacity of storm drainage systems or adversely flood adjacent areas.
- The contributing drainage area does not exceed 1/4 acre per 100 ft of barrier length; the maximum length of slope above the barrier is 100 feet; and the maximum gradient behind the barrier is 50 percent (2:1). If the slope length is greater, additional measures such as diversions may be necessary to reduce that length.
- Sediment barriers cannot be used in areas of concentrated flows. *Under no circumstances* should erosion control mix sediment barriers be constructed in streams or in swales.

SPECIFICATIONS

Erosion control mix can be manufactured on or off the project site. It consists primarily of organic material, separated at the point of generation, and may include: shredded bark, stump grindings, composted bark, or flume grit and fragmented wood generated from water-flume log handling systems. Wood chips, ground construction debris, reprocessed wood products or bark chips are not acceptable as the organic component of the mix.

Erosion control mix contains a well-graded mixture of particle sizes and may contain rocks less than 4" in diameter. Erosion control mix must be free of refuse, physical contaminants, and material toxic to plant growth.

COMPOSITION

The mix should have the following composition:

- The organic matter content is between 80 and 100%, dry weight basis.
- Particle size by weight is 100 % passing a 6" screen and a minimum of 70 %, maximum of 85%, passing a 0.75" screen.
- The organic portion needs to be fibrous and elongated.
- Large portions of silts, clays or fine sands are not acceptable in the mix.
- Soluble salts content is less than 4.0 mmhos/cm.
- The pH should fall between 5.0 and 8.0.

INSTALLATION OF SEDIMENT BARRIERS

- On slopes less than 5 % *or* at the bottom of steeper slopes (<2:1) up to 20 feet long, the barrier should be *a minimum of* 12" high, as measured on the uphill side of the barrier, *and a minimum* of two feet wide. *On longer or steeper slopes,* the barrier should be wider to accommodate the additional flow.
- The barrier must be placed along a relatively level contour. It may be necessary to cut tall grasses or woody vegetation to avoid creating voids and bridges that would enable fines to wash under the barrier through the grass blades or plant stems.
- Good locations for stand-alone use without reinforcement by other BMPs are:
  - At toe of shallow slopes;
  - On frozen ground, outcrops of bedrock and very rooted forested areas; and
  - At the edge of gravel parking areas and areas under construction.
- Locations where other BMPs should be used:
  - At low points of concentrated runoff;
  - Below culvert outlet aprons;
  - Where a previous stand-alone erosion control mix application has failed;
  - At the bottom of steep perimeter slopes that are more than 50 feet from top to bottom (i.e., a large up-gradient contributing watershed); and
  - Around catchbasins and closed storm systems.

CONSIDERATIONS

- Sediment barriers should not be used in streams and large drainage ways!
- If there is evidence of end flow around installed barriers, extend barriers uphill or consider replacing them with temporary check dams.
- Sediment barriers should be installed prior to disturbing soil in the drainage area above them.

MAINTENANCE

- The erosion control mix barriers should be inspected regularly and after each large rainfall. Any required repairs should be made immediately, with additional erosion control mix placed on the berm to reach the desired height and width. Failure is typically not catastrophic and is more easily repaired than silt fencing.
- If there is any sign of undercutting at the center or the edges, or any sign of impounding large volumes of water behind the barrier, it may be necessary to reinforce the barrier by adding another sediment barrier, such as a temporary rock check dam.
- Sediment deposits should be removed when they reach approximately one-half the height of the barrier.
- When the barrier is decomposed, clogged with sediment, eroded or ineffective, it must be replaced or repaired. The barrier should be reshaped as needed.
- Erosion control mix barriers can be left in place. Any sediment deposits remaining in place after barrier is no longer required should be spread to conform to the existing grade and be seeded and mulched.
- In the long-term, vegetation adds stability and will blend in the barrier to the natural environment. Woody vegetation can be planted into the barriers, or they can be over-seeded with legumes.

FOR MORE INFORMATION

Maine Department of Environmental Protection
Bureau of Land & Water Quality

ATTN: Marianne Hubert, (207) 287-4140